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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,435	03/27/2001	Thomas G. Mason	RDH0006	2059

7590 06/20/2002

Ronald D. Hantman  
ExxonMobil Research and Engineering Company  
P.O. Box 900  
Annandale, NJ 08801-0900

EXAMINER

NORTON, NADINE GEORGIANNA

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 06/20/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/818,435

Applicant(s)

MASON ET AL.

Examiner

Nadine Preisch Norton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

Claims 3-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 3 recites the broad recitation of the range for "q", and the claim also recites preferable range for "q" which is the narrower statement of the range/limitation.

In claim 4, the meaning of the phrase "...model that contains contributions a strongly decaying feature to describe..." is unclear.

In claim 4, the phrase "the high-q incoherent scattering" lacks antecedent basis in the claims.

In claim 4, applicants use the phrase "at higher  $q$ ". The phrase renders the claim indefinite because it is unclear what the  $q$  is higher than. If  $q$  is higher than the aggregates, it is suggested that applicants' amend the claim accordingly.

Claims 5, 7, 8, 12 and 14 are indefinite because Equations 1-4 are not defined in the claims. As a result, the required parameters are not clear.

In claim 6, the phrase "the low- $q$  plateau intensity of the asphaltene particles" lacks antecedent basis of the claims.

In claim 6, the phrase "the volume fraction of mixing" lacks antecedent basis in the claims.

In claim 7, the phrase "the system deviation" lacks antecedent basis in the claims.

In claim 9, the phrase "the dominance of the low- $q$  value" lacks antecedent basis in the claims.

In claim 9, the phrase "the surface scattering intensity" lacks antecedent basis in the claims.

In claim 10, the phrase "the power law exponent" lacks antecedent basis in the claims.

In claim 11, the phrase "the low- $q$  plateau intensity" lacks antecedent basis in the claims.

In claim 14, the phrase "the average length scale" lacks antecedent basis in the claims.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Ganeshan (5,843,303) or Sung et al.(5,207,891).

Applicants are claiming a process for disaggregating asphaltenes in petroleum oils and oil mixtures comprising mild heating.

The reference of Ganeshan(5,843,303) discloses heating a petroleum oil. See column 1, lines 31-34.

The reference of Sung et al.(5,207,891) discloses gas oil containing asphaltenes are heated. See column 7, lines 10-15.

The disclosure of the same heating step would inherently disaggregate the asphaltenes.

Applicants' process is anticipated by the references of Ganeshan (5,843,303) or Sung et al.(5,207,891) because the references disclose essentially the same heating step claimed by applicants.

***Claim Rejections - 35 USC § 103***

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ganeshan (5,843,303) or Sung et al.(5,207,891) as applied to claim 1 above, and further in view of Jones et al.(5,969,237).

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It is noted that the references of Ganeshan (5,843,303) or Sung et al.(5,207,891) do not disclose or suggest employing a SANS method to determine the presence of Asphaltenes.

The reference of Jones et al. (5,969,237) illustrates that SANS is a known method for determining the presence of asphaltenes. See column 2, lines 19-30.

Applicants' process is a combination of the known heating step of Ganeshan (5,843,303) or Sung et al.(5,207,891) and the known SANS step for determining asphaltenes in Jones et al.(5,969,237). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the known heating steps of Ganeshan (5,843,303) or Sung et al.(5,207,891) and the known SANS step of Jones et al.(5,969,237) because it has been held that a process is not patentable where a process is an obvious combination of two processing steps, wherein each process step lends to end products that each process step is known to produce when practiced alone and there exists no coaction between the steps that produces unexpected results. In re Fortess and Schoeneberg, 152 USPQ 13 (CCPA 1966). In this case, each known step is performed independently without producing unexpected results.

#### ***Prior Art of Record***

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The attached references include references to SANS.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nadine Norton whose telephone number is 703-305-2667. The examiner can normally be reached on Monday through Thursday from 7:30 am to 6:00 pm.

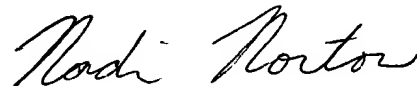
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode can be reached on 703-308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.

N.N.

June 17, 2002

**NADINE G NORTON**  
**PRIMARY EXAMINER**

A handwritten signature in cursive script that reads "Nadine Norton".